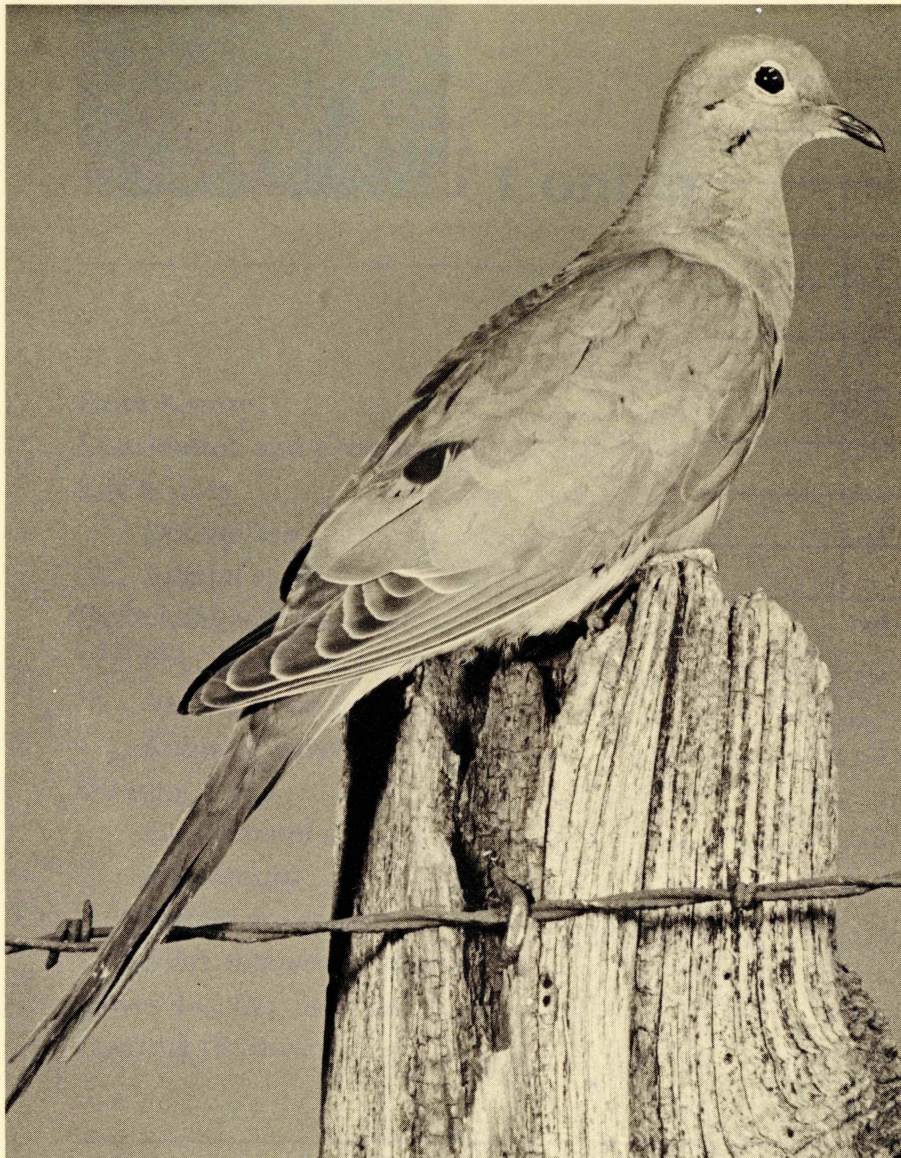


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MISSOURI DEPARTMENT OF CONSERVATION

# The Mourning Dove in Missouri



Karl Maslowski



**Missouri Department of Conservation**  
**P.O. Box 180**  
**Jefferson City, MO 65102**



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by Diana Hallett

Ruth Reeves, *editor*  
Kevin Binkley, *layout and design*  
Leila Kempker, *typesetter*  
Bertha Bainer, *typesetter*



# Mourning Doves in Missouri

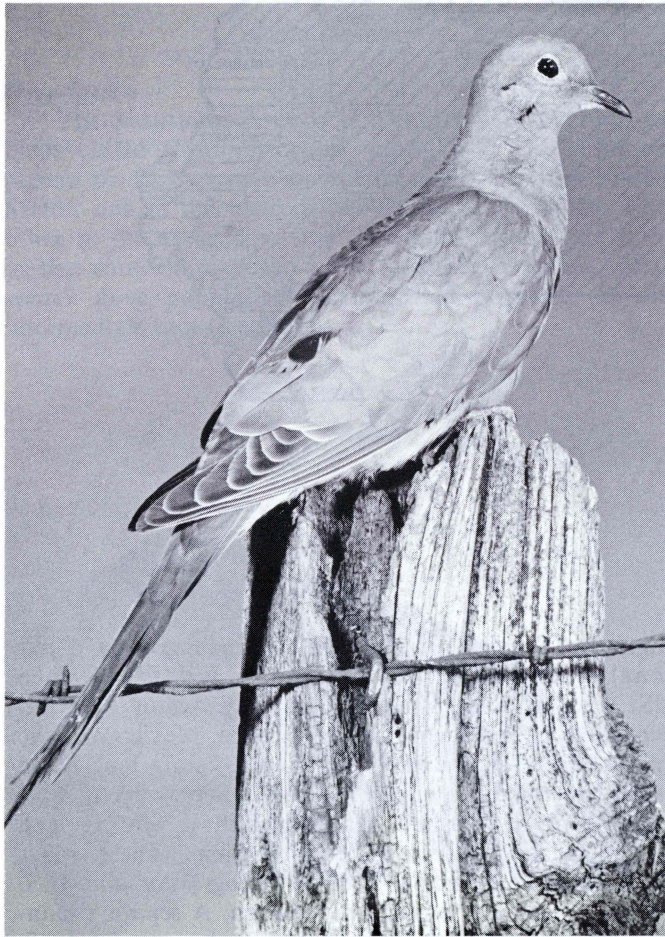
## Dove History

Mourning doves predate man in America, with fossils tracing back 1.8 million years. The birds proved quite adaptable to the arrival of humans, and the two have coexisted through the centuries. Nomadic Indians hunted doves for food in the arid southwestern United States. The Pueblo Indians called them givers of rain or indicators of water because they drank from waterholes daily. Early European settlers used Old World terms to identify New World doves, and they became "turtle doves."

Mourning doves not only adapted to humans, but prospered from their influence. Prairie fires set by Indians, as well as lightning-sparked fires, benefited doves by creating bare ground for feeding sites and enhancing

growth of seed-producing plants. The changes in land use that came with white man's arrival in North America further increased the abundance of doves. New agricultural practices of crop farming, livestock grazing, forest clearing, burning and introduction of exotic seed-bearing plants helped dove populations. The small birds became popular as game birds in the early 1900s when the larger passenger pigeon was hunted to extinction. More recent environmental alterations, such as irrigation, tree planting and building grain storage facilities, continue to improve dove habitat.

Although many human activities help mourning doves, some do not. Brush clearing, clean farming, larger farms and chemical pollutants can reduce dove populations.



Karl Maslowski

The common mourning dove, *Zenaida macroura*. The small birds became popular as game birds when their larger cousin, the passenger pigeon, was hunted to extinction in the early 1900s.



The extinct passenger pigeon, *Ectopistes migratorius*, lacks the small black cheek spots found on doves.

Neg. no. 326029; Courtesy American Museum of Natural History



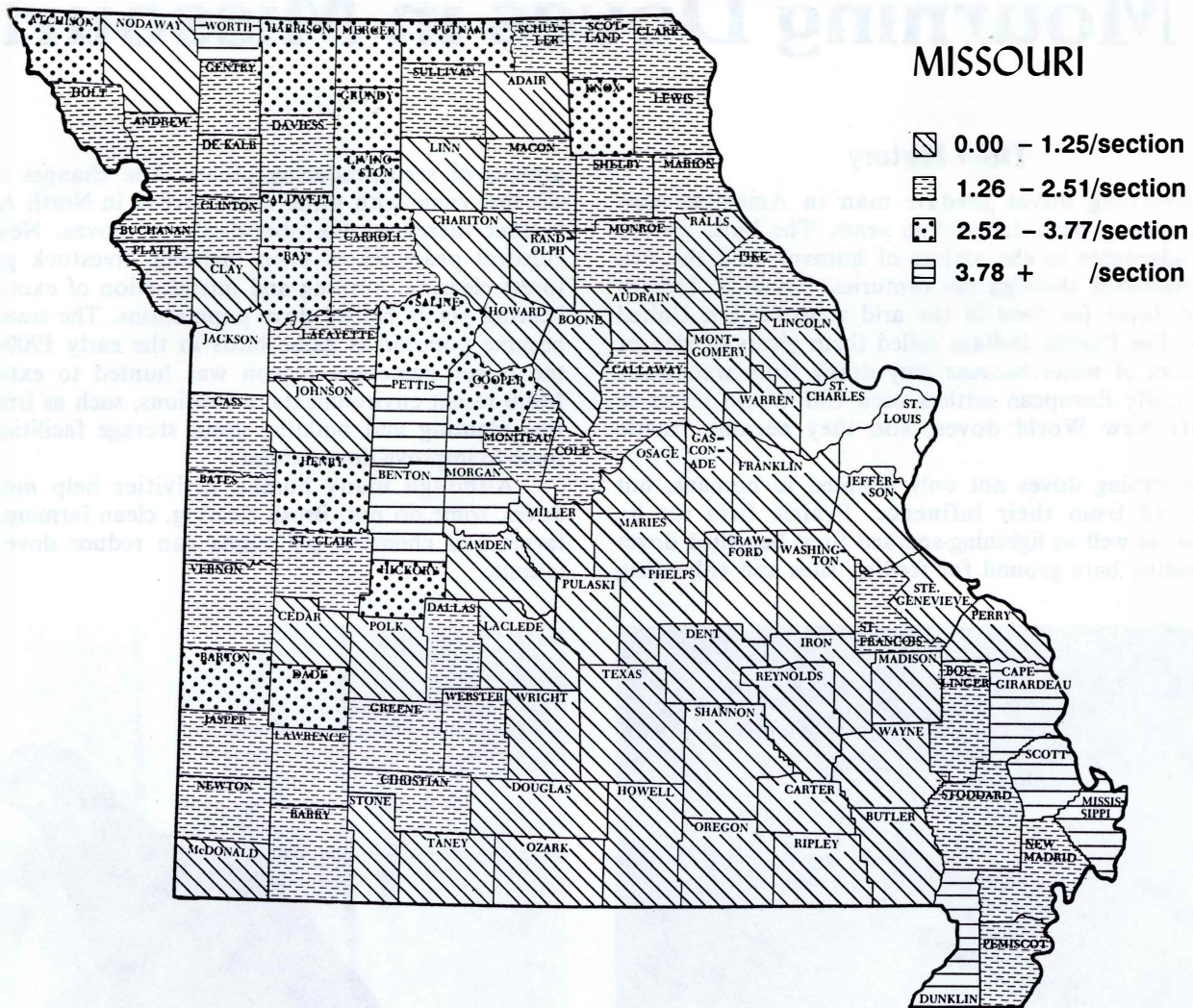


Figure 1. Mourning dove densities in Missouri.

### Distribution and Present Status

The mourning dove is one of the most widely distributed and abundant birds in North America. It is found in all 48 contiguous states, Hawaii, southeastern Alaska, southern Canada, the Greater Antilles and Mexico. Its breeding range includes all these areas except Hawaii.

Doves are found in every county in Missouri, with the greatest densities in the west central portion (see fig. 1). However, most Missouri doves do not overwinter in the state. They migrate one of two directions, depending upon where they live in Missouri. Doves from eastern Missouri generally move southeast into Louisiana, Alabama, Georgia and Florida. Western and central Missouri doves migrate to Texas, Louisiana, Mexico and Central America.

Because mourning doves cross state lines and international boundaries, they are classified as a Federal

Migratory Species. Populations are managed on a national level by the U.S. Fish and Wildlife Service (USFWS). The Migratory Bird Treaty Act of 1918 implemented an agreement among Canada, Mexico and the United States. It specifies that no U.S. state may begin a migratory bird hunting season before September 1.

Within the United States are three zones, each containing independent dove populations. These zones encompass the principal breeding, migration and U.S. wintering grounds for each population. A separate management unit was established for each zone in 1960: Eastern Management Unit (EMU), Central Management Unit (CMU) and Western Management Unit (WMU) (see fig. 2). These units are used by state and federal wildlife biologists in developing dove regulations in much the same way the Waterfowl Flyway System is used for duck and goose management. Missouri is one of 15 states in the CMU.



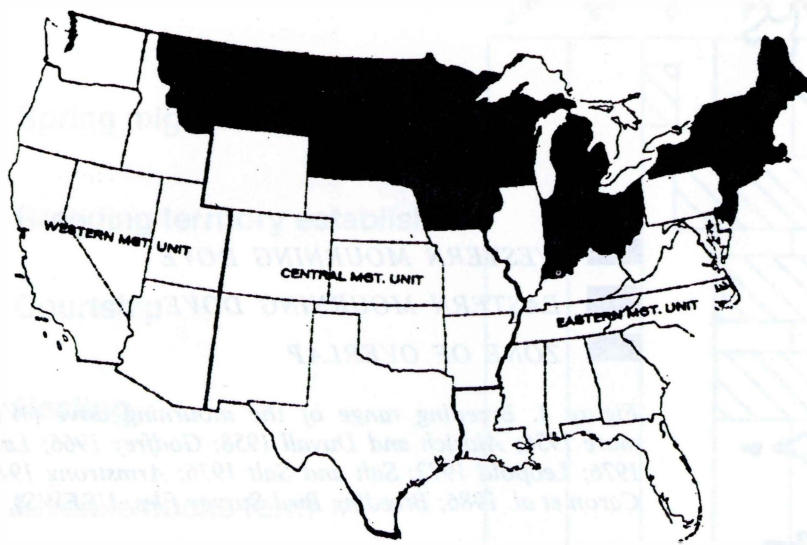


Figure 2. National mourning dove management units. States closed to dove hunting are shaded.

## Life History

### Description

The mourning dove is a member of the group of birds called Columbiformes, along with the common pigeon or rock dove. Two subspecies live in the United States; one in the western two-thirds of the nation, the other in the eastern portion. An intermediate race lives in the zone of overlap, which includes Missouri. Missouri's dove population is comprised primarily of the intermediate race (see fig. 3).

Doves can be distinguished sexually. Males have a light, rosy breast and bluish-gray crown, while females are tan or brownish in these areas. Neck feathers of males are iridescent, as is the earpatch.

Most dove hunters recognize very small birds as this year's hatch, but many mistake juveniles, or immatures, for adults. Immatures can be distinguished by the rounded edges on their primary coverts and one or more unmolted juvenile feathers. Adult primaries are pointed and have uniformly gray-brown coverts. The legs of adult doves are often more red than those of juveniles.



J.B. Madson

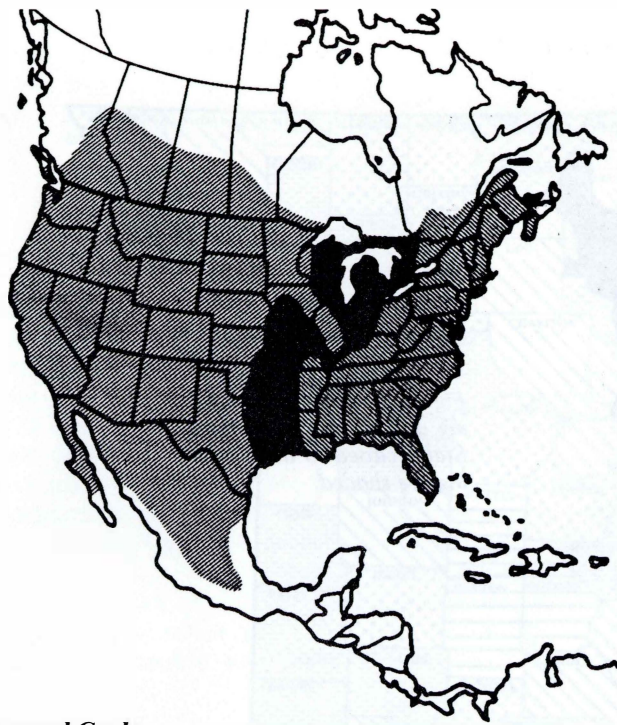


J.B. Madson

The fifth primary feather in this dove wing has been shed and is being replaced by a half-grown adult feather. The primary covert feather at its base is dark-tipped. The covert feathers at the bases of the outer five primary feathers are still light-tipped, which means that those juvenile feathers have not been replaced by adult plumage.

All of the primary coverts of this wing are dark-tipped, and the juvenile plumage has been entirely replaced with adult feathers. This could be an adult hatched the year before, or a bird of the year hatched in early spring. It is impossible to tell without internal examination.








-  WESTERN MOURNING DOVE
-  EASTERN MOURNING DOVE
-  ZONE OF OVERLAP

Figure 3. Breeding range of the mourning dove (Wetmore 1956; Aldrich and Duvall 1958; Godfrey 1966; Lack 1976; Leopold 1972; Salt and Salt 1976; Armstrong 1977; Caron et al. 1986; Breeding Bird Survey files, USFWS).

#### Annual Cycle

The story begins in Missouri each March when mourning doves migrate to natal areas from the previous year (see fig. 4). Males begin establishing breeding territories by calling from exposed branches in dead trees or even utility lines. The typical call is a familiar five syllable "perch-coo."

Doves are strongly monogamous. Following courtship in April, males select the nest site and mated pairs begin nest construction.

Dove nests are flimsy and far from safe for either

eggs or flightless squabs (nestlings). Two or three twigs placed on horizontal tree branches constitute a nest. Doves sometimes use old robin or bluebird nests as their own, and in areas dominated by grasslands, doves will nest on the ground.

The male dove is very attentive and actively participates during nesting. He not only chases away rival males, but he helps the female perform such domestic duties as incubating the eggs and feeding the squabs. Males normally incubate during the day and females at night.

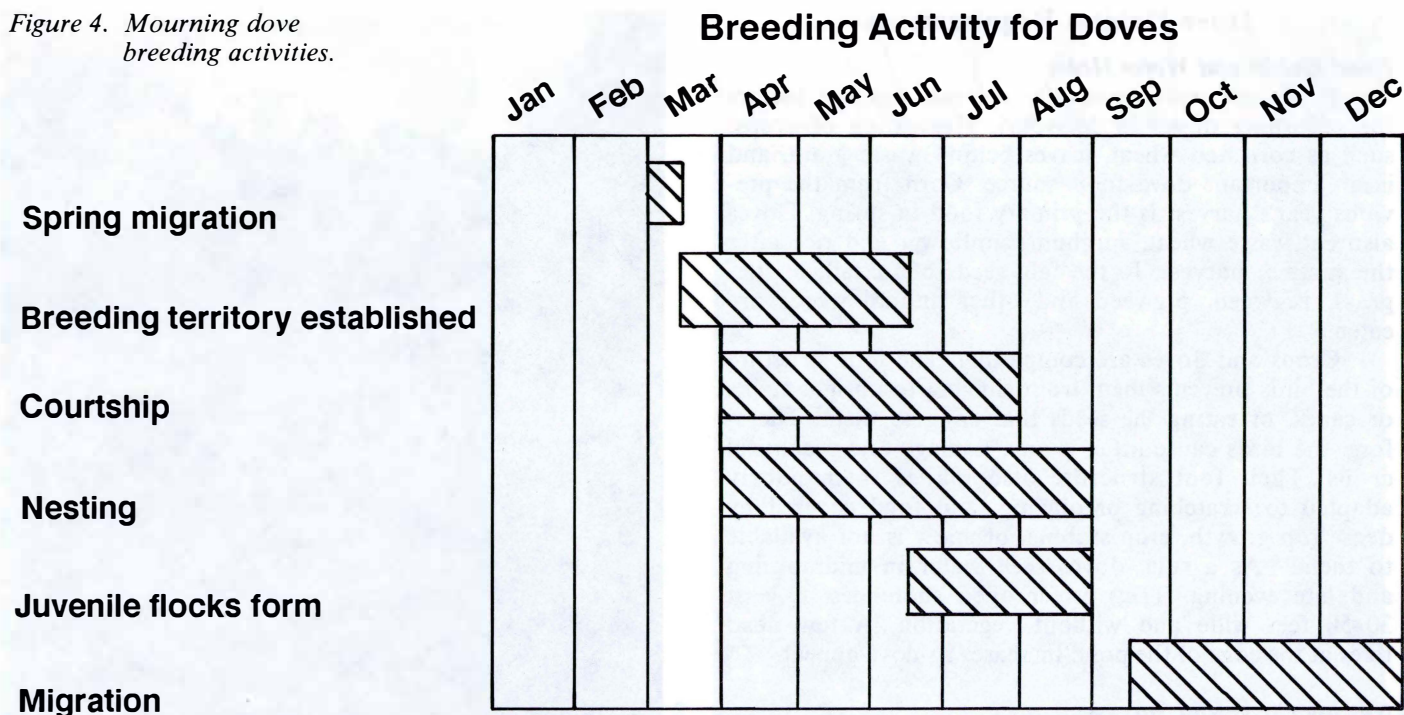


Charles Schwartz

"Pigeon milk," a rich, nourishing secretion from the crop gland of adult male and female pigeons, lasts about seven to nine days. The squabs are gradually weaned to seeds.



Figure 4. Mourning dove breeding activities.



The average clutch size is two eggs, which are usually incubated for fourteen days. Newly hatched squabs are fed "pigeon milk," a secretion from the adult crop. After about seven days they are gradually weaned to seeds. Young doves grow rapidly, usually leave the nest 10–14 days after hatching, and are fully fledged at 13–15 days. Once the pair completes the first nest, they start on the next. Most birds stop reproducing after the first successful nest, but doves resume egg laying a few days after the young are on the wing. Dove pairs average five nests per year, but as many as seven nesting attempts have been recorded. Missouri doves nest from late March to early September.

Less than 50 percent of nesting attempts are successful due to rain, winds and hail. Eggs and chicks

often fall prey to snakes, hawks, skunks and other mammals.

During July and August juvenile doves begin flocking together at feeding and roosting sites, building to peak numbers during late August and early September. Weather conditions determine how long doves remain in the state. The first signs of winter trigger an instinct to fly south and, except for doves in southeastern Missouri, most leave by October 15. A few choice locations with abundant food and roosting sites hold flocks all year. During southerly flights, adult doves from northern states may mingle with Missouri doves.

The annual turnover rate in doves is high. They reproduce at a high rate and live but a short time. Only 40 percent of mourning doves hatched in a given year survive until the next breeding season.



Dove nests are flimsy. Two or three twigs placed on horizontal tree branches often constitute a nest. In areas dominated by grasslands doves will nest on the ground.



## Dove Habitat Requirements

### Food Habits and Water Holes

Food and water generally are not limiting factors for mourning doves in Missouri. Harvesting of crops, such as corn and wheat, leaves behind waste grain, and is an important dove food source. Corn from the previous year's harvest is the primary food in spring. Doves also eat waste wheat, sorghum, sunflower and rice after the summer harvest. In the fall, seeds of foxtail, bristlegrass, ragweed, pigweed and other annual weeds are eaten.

Crops and doves are compatible. The foot structure of the birds prevents them from clinging to upright stalks or canes, or eating the seeds that cling to them. Therefore, the birds cause little, if any, damage to agricultural crops. Their foot structure also makes them poorly adapted to scratching or digging, and food covered by dense top growth, crop stubble, or snow is not available to them. As a rule, doves seek water in midmorning and late evening. They prefer open shorelines at least 30–50 feet wide and without vegetation. A few dead trees at the edge of the pond increases its dove appeal.

### Nesting Cover and Success

Dove nesting habitat varies from open grasslands to trees and shrubs in residential areas. Doves benefit from conversion of natural habitats into cultivated areas or pasturelands. They are especially abundant in fields, orchards or generally weedy areas with many grains or seeds.

Mourning doves in Missouri nest primarily in trees. However, doves in southwestern counties have been known to nest on the ground. Doves prefer to nest in areas with scattered trees, projections of timber into fields, fence rows or treelined creekbanks. In Missouri,



file photo

*Nesting sites surrounded by bare ground attract more doves.*



file photo

*Cultivated areas benefit doves. Corn from the previous year's harvest is their primary food in the spring. Fence rows make good nesting habitat.*

good nesting habitat is fairly low, shrubby trees in fence rows or at forest edges. Conifers are often used for first nests, but are less likely to be used in later nesting attempts. Nesting sites attract more doves when surrounded by bare ground, such as in orchards. Favored nesting trees in Missouri include cedar, honey locust, post oaks, elm, hackberry, hawthorn, osage orange, box elder and fruit trees. Many urbanites know that doves will also nest in residential shade trees, usually building their nests 5–15 feet above ground level. Nest success is generally higher in the summer than in the spring, with an overall success rate of 64 percent.

### Roosting Cover

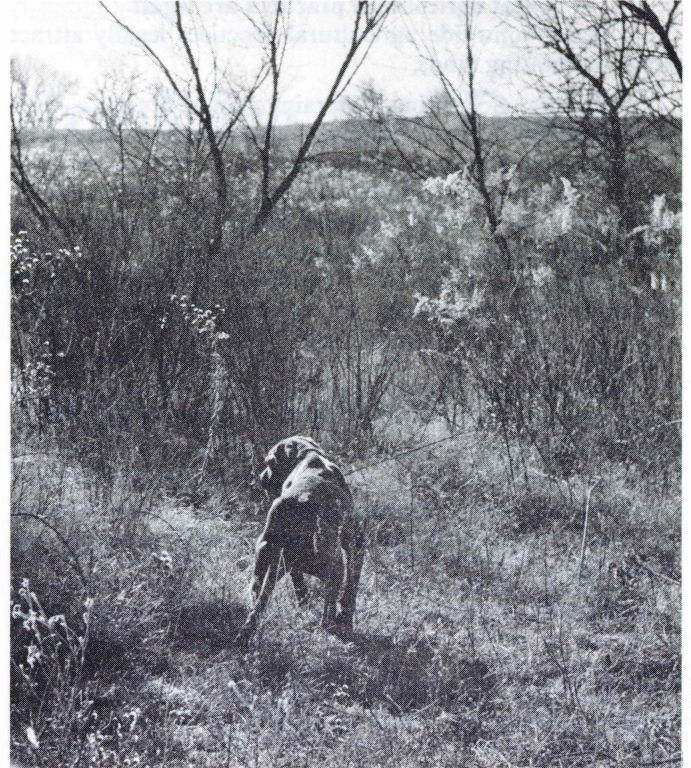
Doves roost in habitats ranging from grasslands to dense timber. Dove species that roost in trees also prefer to nest in trees. Maintaining or creating roosting cover near feeding sites can be an effective way of concentrating doves. Planting trees and shrubs, singly or in groups, provides spring and summer nesting sites and fall roosting sites for flocking and migrating doves. Hedgerows and shelterbelts also provide nesting and roosting sites, and conifers are good winter cover.





file photo

*Experience and personal preference are the decisive factors when choosing which gauge, choke and load to use.*



file photo

*A good retriever is almost a necessity on dove hunts. Hunters often have a hard time spotting fallen doves, especially in early a.m. or late p.m. shooting.*

## Hunting Doves

### **Recreational Use**

The mourning dove is one of the most abundant birds in the United States. It is a traditionally popular game bird and continues to gain status as a songbird. Nationwide, it annually provides more than 19 million days of hunting recreation for an estimated three million people. Hunters today take more doves than any other game bird, and more than all waterfowl species combined. Approximately 68,000 Missourians annually harvest about 1.2 million mourning doves.

### **Regulations**

The USFWS annually sets hunting regulation frameworks by Management Unit. These frameworks set maximum limits within which individual states can choose their seasons. States can be more restrictive than the USFWS, but not less. Missouri is traditionally conservative with a typical season lasting from September 1 through November 9. This 70-day season allows hunters to take 10 doves daily and possess 20. Shooting hours begin one-half hour before sunrise and end at sunset. Banding data shows that over 73 percent of the doves harvested in Missouri were produced in the state. In the past, Missouri has ranked second highest in number of doves harvested per unit land area.

### **Baiting Doves**

Problems arise yearly over what constitutes illegal baiting, or enticement, of doves for hunting. Since they are migratory birds, doves are covered by federal law stating that "no person shall take migratory birds by the aid of baiting, on or over any baited area." Normal, or bona fide, agricultural practices are not considered baiting.

The key to understanding the regulations is the term bona fide, a latin phrase meaning in good faith or without fraud or dishonesty. It means that the dove hunter is not resorting to unusual practices that would unfairly attract doves to his hunting field.

### **What is baiting?**

It is illegal to hunt a baited field. Baiting is the placing, exposing, depositing, distributing or scattering of shelled, shucked or unshucked corn, wheat or other grain, salt or other feed that lures, attracts, or entices birds to, on or over any areas where hunters are attempting to take them. Under the law, an area will continue to be considered baited for 10 days following complete removal of all corn, wheat or other grain, salt or other feed.



### **What agricultural practices are legal?**

Many bona fide agricultural practices legally attract doves to hunting lands.

**Planting:** Scattering of grain crop seeds in a field that has been plowed and disced is attractive to doves. The crops may be top sown, strewn on top of the soil, with or without preparing a seed bed. Wheat aerially seeded on cotton and soybean fields before harvest is also a bona fide agricultural practice.

It is not a bona fide agricultural practice to seed the same field repeatedly, to concentrate wheat in long rows or to pile wheat on the field.

**Harvesting:** The harvest of grain crops such as corn, wheat, milo, sorghum, millet, sunflower and buckwheat also attracts doves. Seeds become available to wildlife when they fall to the ground, and large numbers of mourning doves gather in these fields. Dove hunting is *legal* in harvested areas if agricultural practices are *bona fide*.

**Hogging down:** A third practice that makes grain available to doves is allowing livestock into the field to feed on harvested or unharvested grain, often peanuts or corn. The resulting grain-strewn field is called a hogged-down field. Dove hunting over a hogged-down field is legal.

**Food plots:** Many landowners plant food plots for wildlife. It is legal to hunt doves over a food plot if grains grown for wildlife management purposes are not returned to the hunting field once they have been harvested. For example, a field of millet can be grown specifically for doves and hunted over if no additional grain is scattered or placed on the field. The grain grown on the field may not be harvested then redistributed to the hunting field at a later time. The crop can be cut with a sickle or rotary mower or otherwise knocked down to make the grain more available to doves.

**Burning wheat.** Burning wheat can make seed available for doves. Under the right conditions fire will burn soft plant parts leaving the harder seed on bare ground.

Burning standing wheat or stubble for doves is a management practice that is becoming widely used. It is not new and its use is not restricted to developing wildlife habitat. The burning of wheat stubble in preparation of double cropping with soybeans has been occurring for several decades. Also, it has been used by farmers to remove the residue for seedbed preparation. However, its use tends to be localized.

Burning for agricultural uses has allowed its legal use for dove management. Since burning wheat stubble is considered a normal agricultural practice, it avoids the federal definition of baiting. The Fish and Wildlife Service Regulation states that no person shall take migratory game birds by the aid of bait; the placing of feed such as corn, wheat, salt or other feed to constitute a lure or enticement.

Wheat is an important summer food for doves. Approximately 80 percent of a dove's diet in July is wheat, 50 percent in August and 20 percent in September. The purpose of burning wheat is to improve the availability of food for doves by removing the stubble and litter and exposing the wheat and associated weed seeds.

### **Recommended burning procedures:**

- Establish good firelines and follow procedures. Do not use adjoining crops such as milo or fescue as a fire break.
- Reduce fuel height by mowing with a sickle bar mower. (A rotary mower windrows debris and will cause an uneven fuel condition.)
- Conduct burn between 10 a.m. and 4 p.m. Windspeed should be five to 15 m.p.h. with 30 to 50 percent humidity.

### ***Responsibilities of the hunter***

Dove hunting regulations are part of the Migratory Bird Treaty Act, which is a strict liability statute. This means that guilt may be established without proving that the hunter had knowledge or intent to violate the law. Unfortunately, a number of people each year find themselves shooting over a baited field without knowing it. The hunter has the responsibility of determining whether a field is baited.

### ***Beware!***

Ask if the field has been baited. If a large concentration of doves is present and the field is freshly plowed, look closely at the soil for grain that is not part of a bona fide agricultural practice. For example, millet planted just before and during dove season is not considered a bona fide agricultural practice because the usual planting season for millet is the early summer.

Check for evenly distributed grain in the field, because all bona fide agricultural planting practices distribute grain evenly. Look closely for grain or other material attractive to doves that was not grown on the field.

Dove hunting regulations are designed to protect mourning doves as a state and national resource and to provide hunting opportunities. For more detailed information, contact your local conservation agent.

### ***Guns and Ammunition***

All the words written about choosing the proper dove gun could be boiled down to these. Some hunters prefer a 12-gauge over-under with modified and improved cylinder barrels. Others prefer a semiautomatic with improved cylinder choke, shooting light loads of No. 7½ or No. 8 shot.

The average gunners are best off with a 12-gauge because it throws the most shot—and they need all the shot they can get. If it's a gas-operated autoloader, it will likely be a comfortable gun to shoot throughout a long afternoon. In the end, personal preference plays the major role in deciding which gauge, choke and load to use.

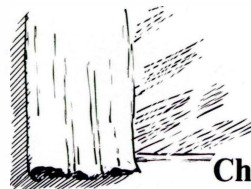
A good dog can make for a better hunt, especially in tall corn or brushy woods. Even on open ground a well-trained retriever is valuable. Hunters often have a hard time spotting fallen doves, especially in early a.m. or late p.m. shooting.

### ***Doves Dwelling in Cities***

Elevated bird feeders and baths do not serve doves. Food and water must be available at ground level for them. Both should be located away from tall vegetation or other visual obstructions where city predators like house cats could hide.



# Cooking the Doves



Charcoal Dove

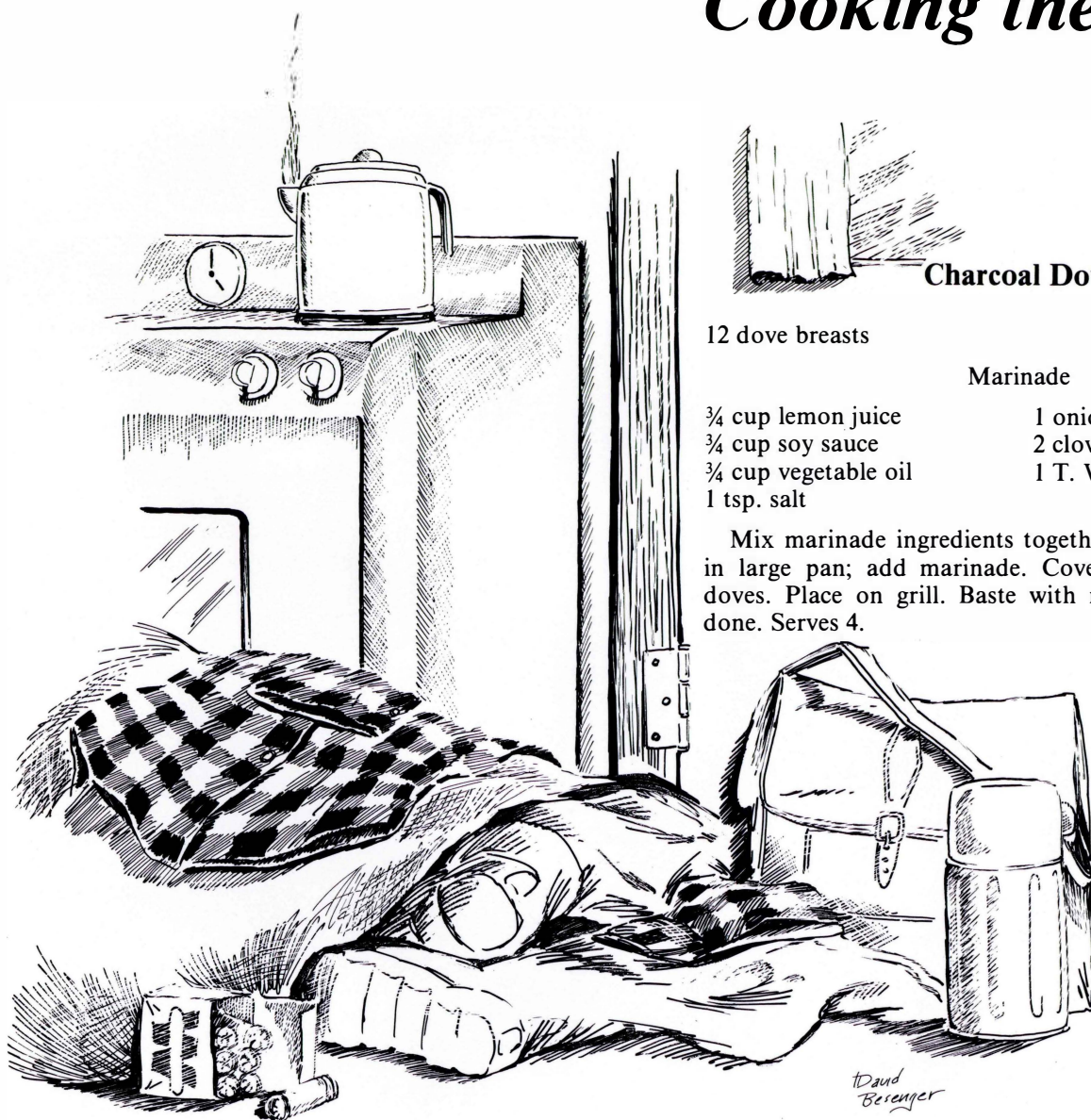
12 dove breasts

## Marinade

¾ cup lemon juice  
¾ cup soy sauce  
¾ cup vegetable oil  
1 tsp. salt

1 onion chopped  
2 cloves garlic, chopped  
1 T. Worcestershire sauce

Mix marinade ingredients together. Place dove breasts in large pan; add marinade. Cover overnight. Remove doves. Place on grill. Baste with marinade. Cook until done. Serves 4.



Drawing by Dave Besenger

## Dove D'elegence

12 Doves	¾ cup water
1 onion, chopped	1 can (10 ¾ oz.) cream of mushroom soup
1 stalk celery, chopped	¾ cup brandy
1/3 cup chives, chopped	1 can (17 oz.) English peas
1 T. salt	3 beef bouillon cubes
1 T. pepper	3 tsp. margarine or butter
½ cup evaporated milk	

Place doves in casserole dish. Arrange onions, celery and chives around. Salt and pepper. Add milk, water, mushroom soup, brandy, peas, margarine and bouillon cubes. Bake at 375 degrees F. for 2 hours. Remove doves and place on platter. Thicken gravy. Pour over doves. Serve with wild rice. Serves 4.

## Wild doves in wine

8 doves, cleaned and picked  
3 T. olive oil or bacon drippings, heated

Brown doves on all sides in oil or drippings in heavy iron skillet.

½ cup sherry or dry red wine  
½ cup olive oil  
2 T. worcestershire sauce  
½ tsp. salt

Add all ingredients to doves. Cover skillet with tight lid. Simmer over a low heat (liquid should never boil) for 1 ½ hours or until tender.

Serve with brown and wild rice.



